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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/039,340	12/31/2001	George G. Barclay	50727-3C	1545

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EXAMINER

HAMILTON, CYNTHIA

ART UNIT	PAPER NUMBER
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1752

DATE MAILED: 08/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/039,340

Applicant(s)

BARCLAY ET AL.

Examiner

Cynthia Hamilton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 6/6/05, 1/10/05.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5,8,23,24,35,41 and 46-69 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,8,23,24,35,41 and 46-69 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

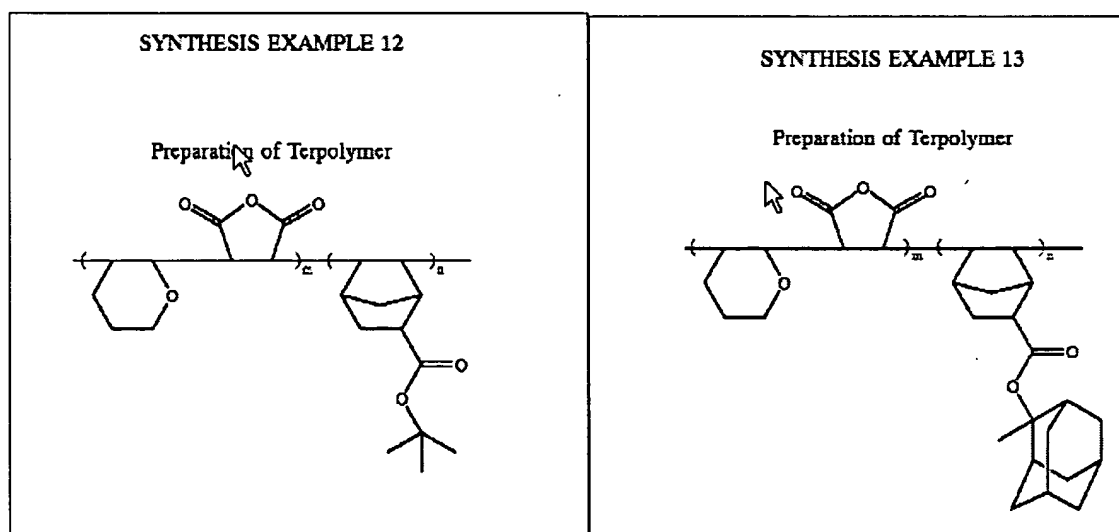
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|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

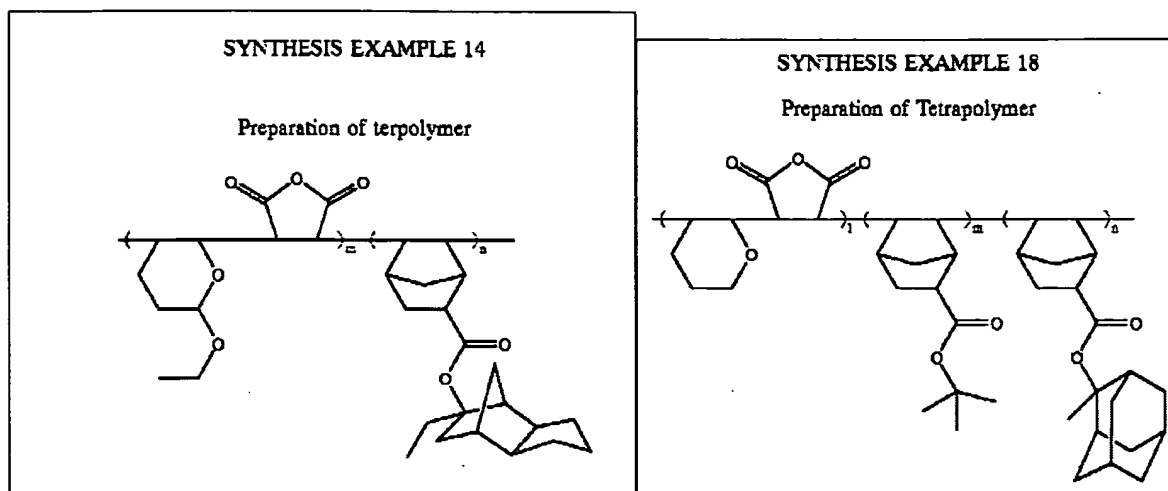
DETAILED ACTION

1. EXAMINER NOTE:

There is no disclosure in the original application SN 09/567,634 and claims to polymer comprised of a heteroalicyclic group that is not an anhydride or lactone and is fused to the polymer backbone and that contains one or more oxygen or sulfur ring members as is now found in instant claim 69 and was part of the original disclosure, i.e. original claim 13, in the instant application as well as in PCT/US01/14914. Thus, the effective filing date for claim 69 and all dependent there on is that of PCT/US01/14914 which is May 8, 2001.

2. Claims 1-2, 4-5, 23-24, 35, 41, 46, 48-68 are rejected under 35 U.S.C. 102(e) as being anticipated by Choi et al (6,517,990 as evidenced by their provisional document 60/198,761). With respect to instant claims 1-2, 4-5, 23-24, 35, 41, 46, 48-68, the examples of Choi et al at Example 4 with respect to Synthesis Examples 12, 13, 14 and 18 also present in 60/198,761 anticipate the instant polymers. The polymers in question from 6,517,990 are as follows:





3. Applicant's arguments filed June 6, 2005 have been fully considered but they are not persuasive. Applicants disagree with the rejection but do not state why. Their response is 'a Rule 131 Declaration is being submitted under separate cover to antedate the Choi et al citation.' No such Declaration is of record to be considered. The rejection stands.
4. Claims 1-5, 8, 23-24, 35, 41 and 46-68 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In independent claims 1 and 52 is found "not an oxonorbornyl". All of claims 1-5, 8, 23-24, 35, 41 and 46-68 have this limit with respect to the polymer that comprises a heteroalicyclic group that is fused to the polymer backbone. Applicants cite for support of "not an oxonorbornyl" page 6, lines 11-15 and page 11, lines 19-25 of the application. These portions of the original disclosure are as follows:

10
The oxygen and/or sulfur atoms of the heteroalicyclic ring are preferably direct ring members (bi-radical linkages), rather than e.g. a multiple bond group such as a keto or thioketo ring member. Also, less preferred are groups that contain any such saturated groups such as a ketone or other carbonyl including ester, lactone, anhydride, etc.

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20 Polymers of the invention also may contain oxygen or sulfur ring groups that are spaced from the polymer backbone. The spaced oxygen or sulfur ring group suitably will contain a single ring, although polycyclic rings that contain one or more oxygen or sulfur ring members also will be suitable. Less preferred are groups where sulfur or oxygen is a bridgehead atom of a polycyclic group, particularly a bridgehead of a bicyclic group such as a oxonorbornyl or thionorbornyl group, especially if such oxonorbornyl or
25 thionorbornyl group is present as part of an ester moiety.

Only page 11 comes close to supporting this addition to the claims. However, the limitation on page 11 appears to be directed to polymers that have oxygen or sulfur ring groups "spaced" from the polymer backbone, i.e. not fused to the backbone as required by instant claims 1-5, 8, 23-24, 35, 41 and 46-68. Thus, applicants have failed to show sufficient support in the original disclosure for the addition of "not an oxonorbornyl" to the instant claims wherein the exclusion is from rings fused to the backbone of the polymer chain instead of spaces as set forth on page 11 of the instant specification. It is not clear what is meant by "oxonorbornyl" at this point either. The standard definition according to IUPAC for "oxo compounds" is as follows:

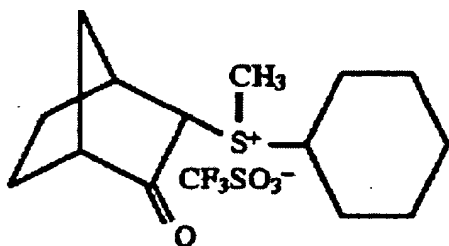
oxo compounds:

Compounds containing an oxygen atom, =O, doubly bonded to carbon or another element. The term thus embraces aldehydes, carboxylic acids, ketones, sulfonic acids, amides and esters. Oxo used as an adjective (and thus separated by a space) modifying another class of compound, as in oxo carboxylic acids, indicates the presence of an oxo substituent at any position. To indicate a double-bonded oxygen that is part of a ketonic structure, the term keto is sometimes used as a prefix, but such use has been abandoned by IUPAC for naming specific compounds. A traditional use of keto is for indicating oxidation of CHOH to C=O in a parent compound that contains OH groups, such as carbohydrates. E.g. 3-ketoglucose. Cf. ketoaldonic acids, ketoaldoses.

This does not seem to make the oxygen of oxo a member of the heterocyclic ring but instead a substituent. Page 11 cited above from the instant specification references the “bridgehead “ sulfur or oxygen then also references the the oxonorbornyl being part of an ester moiety. The examiner is not sure what is being excluded by the language added to the instant claims when “not an oxonorbornyl” was added. From US 5,691,111 is found in col. 10 the following use of the term:

EXAMPLE 2

Synthesis of cyclohexylmethyl(β -oxonorbornyl) sulfonium trifluoromethanesulfonate



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“oxabornyl” got no hits the US patent databases available to the examiner. A bridgehead atom is bound to three or more atoms. This definition is obtained from IUPAC suggested usage as shown below obtained from 1999 IUPAC recommendations.

VB-1 Definitions and Terminology

A *bridgehead* is any skeletal atom of the ring system which is bonded to three or more skeletal atoms (excluding hydrogen).

A *bridge* is an unbranched chain of atoms or an atom or a valence bond connecting two bridgeheads.

Two bridgeheads are selected as *main bridgeheads*. These two bridgeheads must be linked by at least three bridges (which may include bridgehead atoms required for secondary bridges). No atom is present in more than one bridge.

The *main ring* of the ring system is the ring identified by VB-2 and includes the two main bridgeheads.

The *main bridge* is a bridge which connects the two main bridgeheads.

A *secondary bridge* is any bridge not included in the main ring or the main bridge.

An *independent secondary bridge* links bridgeheads which are part of the main ring or main bridge.

A *dependent secondary bridge* links at least one bridgehead which is part of a secondary bridge.

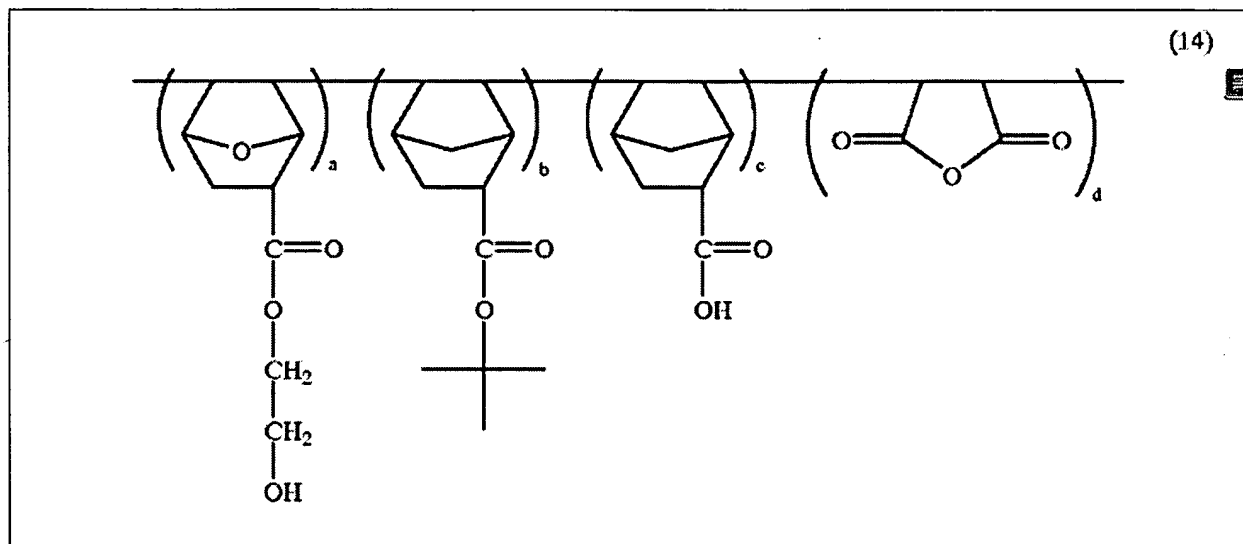
In view of the confusion as to the meaning of oxonorbornyl, and bridgehead the following rejection is repeated.

5. Claims 1-2, 4-5, 23-24, 35 and 41 and 46, 48-54, 56-68 are rejected under 35

U.S.C. 102(e) as being anticipated by Jung et al (6,150,069). The compositions, articles of

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manufacture and methods of forming relief images of Jung et al anticipate the instant compositions, articles and methods of claims 1-2, 4-5, 23-24, 35 and 41 and 46, 48-54, 56-68 wherein oxygen is the heteroatom in the fused ring. In Jung et al, see col. 2, lines 6-61, col. 3, lines 1- col. 6, lines 37, and Examples. The structure in question in Jung et al is as follows:



6. Applicant's arguments filed June 6, 2005 have been fully considered but they are not persuasive. Applicants argue that Jung makes use of "oxonorbornyl" groups and is thus excluded. The examiner states such is not clear from the art recognized terminology nor the terminology defined by applicants in their specification. The rejection stands.

1. Claims 1-2, 4-5, 24, 35, 41, 46, 48-50, 52-54, and 56-68 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Nishi et al (6,566,038 B2). With respect to instant claims 1-2, 4-5, 24, 35, 41, 46, 48-50, 52-54, and 56-68, Nishi et al disclose a species which reads on the instant invention with the exception of giving an example wherein the third optional monomer unit of the polymer used as set forth in col. 10-13 has X = O. However, such are clearly disclosed by Nishi et al as options for X of

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which there are only two, i.e. $-\text{CH}_2-$ or $-\text{O}-$. Thus, the choice of $\text{X} = \text{O}$ is immediately envisionable and thus anticipatory of the instant invention or are immediately obvious as one of two choices in the instant polymers for the optional units which always require X present. In Nishi et al, see particularly the Summary of the Invention, col. 18, lines 30-68 and claim 2.

7. Applicant's arguments filed June 6, 2005 have been fully considered but they are not persuasive. Applicants argue that Nishi et al makes use of "oxonorbornyl" groups and is thus excluded. The examiner states such is not clear from the art recognized terminology nor the terminology defined by applicants in their specification. The rejection stands.

8. Claim 69 is rejected under 35 U.S.C. 102(e) as being anticipated by Barley et al (6,841,331 B2) as evidenced by Provisional application No 60/271,401 filed February 27, 2001. The polymer composition set forth in claim 29 of Barclay et al anticipates the instant composition wherein examples of the monomer used to make the polymer are found in the specification and on page 20 of Provisional application No 60/271,401 inclusive of sulfur rings and oxygen heterocyclic rings without norbornyl structure or carbonyl structure in the ring. The selection of compounds is so small as each be immediately envisionable in the polymers of claim 29 of Barclay et al. There is no disclosure in the original application SN 09/567,634 and claims to polymer comprised of a heteroalicyclic group that is not an anhydride or lactone and is fused to the polymer backbone and that contains one or more oxygen or sulfur ring members as is now found in instant claim 69 and was part of the original disclosure, i.e. original claim 13, in the instant application as well as in PCT/US01/14914. Thus, the effective filing date for claim 69 and all dependent there on is that of PCT/US01/14914 which is May 8, 2001.

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9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia Hamilton whose telephone number is 571-272-1331. The examiner can normally be reached on Monday through Friday 9:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H. Kelly can be reached on (571) 272-0729. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**CYNTHIA HAMILTON
PRIMARY EXAMINER**

Cynthia Hamilton
Primary Examiner
Art Unit 1752

August 22, 2005